

1. A host-based method for identifying an area within a color layer of a page that is not to be painted when producing a final output page, the page including a gradient having a color definition in one of a plurality of color planes; the method comprising
- 5 a. defining a clippath for the gradient;
- b. converting the clippath to a high level representation;
- c. adding the high level representation of the converted clippath back to the page and identifying the high level representation as a knockout area that is not to be painted.
- 10 2. The method of claim 1 wherein the step of defining includes reducing the gradient to one or more simple objects and identifying a set of the simple objects that bound the gradient.
- 15 3. The method of claim 1 wherein the high level representation is a path object.
4. The method of claim 3 wherein the path object is a PDF path object.
5. The method of claim 1 wherein the step of converting includes converting the clippath to a PDF path object.
- 20 6. The method of claim 5 wherein the page is represented in PDF and the step of adding adds the PDF path object identifying the knockout area to the PDF representation of the page.
- 25 7. A host-based method for identifying an area within a color layer of a page that is not to be painted when producing a final output page; the method comprising:
- a. identifying an object that is to be overprinted and has a color definition that specifies color data for less than all of the color layers in the page;
- 30 b. generating a knockout object associated with the identified object; and
- c. adding the knockout object to the page.

8. The method of claim 7 wherein the page is a separated page and the knockout object is added to a location in a marking list for the separated page at a same location as the identified object in a marking list for the page.
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9. The method of claim 7 wherein the step of appending the knockout object to the page appends the knockout object in a marking list for the page immediately after the identified object.
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10. The method of claim 7 wherein the step of appending the knockout object to the page appends the knockout object in a marking list for the page immediately after the identified object.
11. A host-based computer implemented method for identifying an area within a color layer of a page that is not to be painted when producing a final output page, the page including a gradient having a color definition in one of a plurality of color planes; the method including instructions for causing a computer to:
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- a. define a clippath for the gradient;
  - b. convert the clippath to a high level representation; and
  - c. add the high level representation of the converted clippath back to the page and identify the high level representation as a knockout area that is not to be painted.
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12. The method of claim 11 wherein the high level representation is a path object.
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13. The method of claim 12 wherein the path object is a PDF path object.
14. The method of claim 11 wherein the instruction for causing the computer to convert includes instructions to convert the clippath to a PDF path object.
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15. The method of claim 14 wherein the page is represented in PDF and the

instruction for causing the computer to add includes instructions to add the PDF path object identifying the knockout area to the PDF representation of the page.

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16. A host-based computer implemented method for identifying an area within a color layer of a page that is not to be painted when producing a final output page; the method including instructions for causing the computer to:
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- a. identify an object that is to be overprinted and has a color definition that specifies color data for less than all of the color layers in the page;
  - b. generate a knockout object associated with the identified object; and
  - c. append the knockout object to the page.
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17. The method of claim 16 wherein the method further comprises instructions to
- a. create color separations including generate a separation page for each color plane in the final output for the page; and
  - b. add the knockout object to a location in a marking list for the separated page at a same location as the identified object is located in a marking list for the page.
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18. The method of claim 16 further comprising instructions to append the knockout object in a marking list for the page immediately after the identified object.
19. The method of claim 16 further comprising instructions to append the knockout object in a marking list for the page immediately before the identified object.